NOTES FROM 12.21.05 PROTON DRIVER MEETING – CONVENTIONAL FACILITIES

Attendees: Bill Foster, Dixon Bogert, Jerry Leibfritz, Bob Webber, Jay Theilacker, Arkadiy Klebaner, Gary VanZandbergen, Lee Hammond, Jim Niehoff, Rod Walton, Chuck Federowicz, John Santic, Paul Lahn, Elaine McCluskey

ITEMS DISCUSSED: **CYROGENICS**

1. **Original plan called for cyro bldg to be placed at 2 deg/4 deg split in system. This would have placed the building close to the front end, not required any transfer lines**
2. **Revised plan puts cryo bldg at midpoint of** $\beta = 1$ linac, approximately opposite L-15 Service Building
3. **Arkadiy outlined how the revised plan for sectorization of the piping in linac tunnel would work:**
    a. Purpose is to improve reliability of cryo system for accelerator
    b. Allows shutdown of part of system to replace cryomodule or do other work without warming up entire length.
    c. Question of what is reliability of planned system without this – this has not been quantified
    d. There would be 4 sectors, 2 upstream of distribution box at midpoint of $\beta = 1$ and 2 downstream
    e. Also need transfer line for 4 deg K section at upstream end for spoke cavities
4. **Distribution Box:**
    a. Located in the tunnel at point where lines come from building
    b. About 80 ft long
    c. Could be in tunnel or in alcove – alcove location presents concerns about ODH safety
    d. Contains U-tubes which need to be pulled to sector the lines.
    e. Platform around 3 sides for pulling U-tubes. 36" wide, at about 4 ft from floor
    f. If in alcove, still need space in beamline about 1/3 cryo module long for piping distribution (?)
    g. Alcove option provides more flexibility for cryo design – preferred from that perspective by Jay
5. **Cryo Building particulars**
    a. Size of building similar to SNS
    b. 6 compressors
    c. Need redundancy for power so that things don't warm up – John described how he and Joe P have thought about doing this in comparison to CHL.
    d. Need crane coverage over compressors and over pit area.
    e. Also need these 2 areas separated for noise reasons. Possibly provide one crane for both areas, with removable wall in between
    f. Pit area should be only for cold box, not for rest of equipment
    g. Loading dock area should be larger than SNS to make it more useful.
6. **Design and procurement of system and equipment**
    a. Equipment inside building would be designed and built by vendor, spec'd by Jay/Arkadiy.
    b. Compressors are off the shelf, would come early. Need to have building ready for that so that piping can begin
    c. Also need transfer piping penetration and distribution box area early, since that installation takes a long time.
    d. Would specify size of pit, not wait for design to determine that.
7. **Tank farm**
    a. Could use existing tanks with piping back and forth – not Jay's preferred way
    b. Could move existing tanks – concern with timing for commissioning from existing CHL and then startup at new plant
    c. Plan for 8 tanks like at SNS for real estate

Actions:

- Dave Johnson to get info to Chuck on latest injection area layout
- Maurice will review pumps and piping sizes and come to a meeting in January with information.
- Maurice will try to get LCW SNS design info from Mark Champion at SNS

Next meeting scheduled for 1/11/06 at 9:30 in WH5NE